

Application Serial No. 10/574,308  
Reply to office action of September 18, 2008

PATENT  
Docket: CU-4715  
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**DEC 18 2008**

**REMARKS/ARGUMENTS**

Reconsideration is respectfully requested.

Claims 1-4 are pending before this amendment. By the present amendment, claims 2-4 are canceled without prejudice; claim 1 is amended. No new matter has been added.

In the office action (page 2), the specification stand objected to because the abstract of the disclosure is not provided on a separate sheet in accordance with 37 CFR 1.52(b)(4). The applicant has amended the abstract for clarity, and provided both a clean copy and a marked copy of the abstract. The applicant respectfully submits that the abstract as provided above is now in accordance with 37 CFR 1.52(b)(4) and withdrawal of said objection is respectfully requested.

In the office action (page 2), claim 4 stands objected to for lack of antecedent basis for the limitation "the amplifier chip." By the present amendment, claim 4 has been canceled, thus, eliminating any grounds for this objection, withdrawal of the objection with regards to claim 4 is respectfully requested.

In the office action (page 2), claims 1-4 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 3,598,928 (Hickox). The "et al." suffix is omitted in a reference name.

In response to the rejection, the applicant traverses the Examiner's rejections by respectfully submitting Applicant's amendment, in which claim 1 has been amended to includes all the features of the cancelled claims 2-4, and an additional feature that the PCB is connected with the faceplate by means of an adhesive, as well as further limitations which are supported from the description in connection with FIG. 8A in the

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detailed description of the specification.

The presently claimed invention is different from Hickox in terms of structure. In the office action the examiner has indicated that 1) Hickox does not specifically disclose the battery electrode terminals, 2) Hickox does not specifically disclose an amplifier, a front microphone and a rear microphone soldered onto the circuit board, 3) Hickox does not specifically show the elongate electric wire, 4) Hickox does not specifically disclose a memory diverting switch, the battery electrode terminals and interface socket terminals are soldered onto the circuit board, and 5) Hickox does not specifically show the electric wires.

In order to provide a digital hearing aid which enables the mass-production of a faceplates, the present invention provides a digital hearing aid using a PCB having the following features, which are distinguishable over the Hickox teachings in relation with a faceplate, accordingly claim 1 has been amended to highlight these features:

--A hearing aid comprising:

a PCB (Printed Circuit Board) in which components of the hearing aid are automatically disposed and soldered;

a faceplate for use in the hearing aid; and

battery electrode terminals connecting two positive and negative electrodes at both sides of a battery chamber disposed at the center of the faceplate,

wherein the PCB is connected with the internal surface of the hearing aid faceplate by an adhesive,

wherein an amplifier, a front microphone, a rear microphone, and a receiver are soldered in turn onto the PCB by an elongate electric wire, respectively,

wherein a memory diverting switch and the battery electrode terminals are soldered and connected onto corresponding circuit terminals of the PCB, respectively,

wherein interface socket terminals between an external controller attached to the battery chamber and the amplifier are soldered and connected onto corresponding circuit terminals of the PCB by use of short electric wires, and

wherein an interface electric wire is connected with an interface socket located in the battery chamber on the faceplate for digital interface with the

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external controller to ascertain whether or not the amplifier operates normally.

Support for the amendments can be found at least in original claims 2-4, the specification page 10, lines 13-24, and FIG. 8a, and as such no new matter has been added by the present amendment.

The presently claimed invention provides a digital hearing aid using a PCB having the includes —an interface electric wire is connected with an interface socket located in the battery chamber on the faceplate for digital interface with the external controller to ascertain whether or not the amplifier operates normally— (specification page 10, lines 13-24).

Particularly, in the case of the present invention, the PCB is connected with the internal surface of the hearing aid faceplate by means of an adhesive (specification page 9, lines 20-21), but in the case of the Hickox invention, the PCB is not expressively connected with the cover plate with an adhesive, rather, according to Hickox, the former is secured with the latter in a mechanical sense.

Also, according to the present invention, the components of the hearing aid including an amplifier, a front microphone, a rear microphone, and a receiver are soldered in turn onto the PCB by use of elongate electric wires (specification page 8, lines 21-24), respectively, and interface socket terminals between an external controller attached to the battery chamber and the amplifier are soldered and connected onto corresponding circuit terminals of the PCB each other by use of short electric wires (specification page 10, lines 9-12). However, Hickox does not teach soldering an amplifier, a front microphone, a rear microphone, and a receiver in turn (or in sequence) onto the PCB. Further, Hickox does not teach use of both elongate

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electric wires and short electric wires in a discriminative manner among the electrically connected components which are soldered on the PCB.

The Applicant respectfully submits that these features of claim 1 are neither taught nor suggested by Hickox, and as such as indication of allowable content with respect to claim 1 is respectfully requested.

Additionally, the presently claimed invention is quite different from Hickox in that the present invention and Hickox have very different objectives. The presently claimed invention provides a hearing aid which uses a Printed Circuit Board (PCB) and thus minimizes internal wires in an In-The-Ear (ITE) type hearing aid, in particular, provides a hearing aid using a PCB in which the PCB is connected with the internal surface on a faceplate of an ITE type hearing aid, which enables an automatic soldering process and reduces unnecessary soldering of internal wires to thereby enable a mass-production of the hearing aid faceplates. That is, the present invention enables the mass-production of the hearing aid faceplates at reduced costs (abstract of disclosure).

In contrast, the Hickox invention is directed to a customized hearing aid that is considered inoperative because of when any one of a number of device malfunctions occurs, the malfunction is corrected and returned to the user in operative condition on a matter of moments by removing the standard cover plate and circuit board assembly from the casing and completely replacing it with another.

Therefore, while the present invention is in pursuit of a mass-production of a faceplate of a digital hearing aid, the Hickox invention teaches away from the objects of the present invention because Hickox is directed to a pursuit of an easy replacement of

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a cover plate and a circuit board assembly.

The Applicant respectfully emphasizes the above-stated features and differences, both structural and otherwise, between the present invention and the Hickox would have not been obvious to one skilled in the art. As such, an indication of allowable subject matter with respect to claim 1 is respectfully requested.

For the reasons set forth above, the applicant respectfully submits that claim 1, now pending in this application, is in condition for allowance over the cited reference. Accordingly, the applicant respectfully requests reconsideration and withdrawal of the outstanding rejections and earnestly solicits an indication of allowable subject matter.

This amendment is considered to be responsive to all points raised in the office action. Should the examiner have any remaining questions or concerns, the examiner is encouraged to contact the undersigned attorney by telephone to expeditiously resolve such concerns.

Respectfully submitted,

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W. William Park, Reg. No. 55,523  
Ladas & Parry LLP  
224 South Michigan Avenue  
Chicago, Illinois 60604  
(312) 427-1300